Unit 1: Congruence, Proof, & Constructions

Experiment with transformations in the plane

1. Geometric definitions

Identify & precisely define angle, circle, perpendicular, parallel, & line segment based on the undefined notions of point, line, distance along a line, and distance around a circular arc.

Formative			
Summative			

2. Transforming figures

Reflect, rotate, and translate figures.

Formative			
Summative			

3. Identifying transformations

Identify sequences of transformations that carry a given figure onto another.

Formative			
Summative			

4. Transformations as functions

Describe a transformation as a function in the coordinate plane.

Formative			
Summative			

Understand congruence in terms of rigid motions

5. Determining congruence

Use the definition of congruence to determine if two figures are congruent.

Formative			
Summative			

6. Triangle congruence

Use the definition of congruence to show that two triangles are congruent if and only if corresponding sides and angles are congruent.

Formative			
Summative			

7. SSS, SAS, and ASA

Explain how the criteria for triangle congruence (SSS, SAS, ASA) follow from the definition of congruence.

Formative			
Summative			

Prove geometric theorems

8. Line & angle theorems

Prove theorems about lines and angles.

Formative			
Summative			

9. Triangle theorems

Prove theorems about triangles.

Formative			
Summative			

10. Parallelogram theorems

Prove theorems about parallelograms.

Formative			
Summative			

Make geometric constructions

11. Line & angle constructions

Make constructions with a variety of tools including compass, protractor, folding paper, and software programs.

Formative			
Summative			

12. Polygon constructions

Construct an equilateral triangle, a square, and a regular hexagon inscribed in a circle.

Formative			
Summative			